B. Objection to the information disclosure statement filed March 3, 1998:

A supplemental information disclosure statement with English-language abstracts of the cited foreign patent references is filed herewith as per the Examiner's request to overcome the Examiner's objection.

C. Rejection of claims 1-13 under 35 U.S.C. §103(a) as being unpatentable over Tiedemann, Jr. et al. in view of Madhavapeddy:

The Examiner rejected claims 1-13 under 35 U.S.C. §103(a) as being unpatentable over Tiedemann, Jr. et al. in view of Madhavapeddy. The Applicant respectfully disagrees.

The Applicant's present invention is depicted in Figure 1 as comprising two cells C1, C2 having respective base transceiver stations and controllers BSC1, BSC2, BTS1, BTS2 which are further in communication with mobile switching centers MSC1, MSC2, old and new visitor location registers OVLR, NVLR, and a home location register/permanent database HLR. In operation, the mobile unit MS leaves cell C1 and enters cell C2. The mobile unit MS initiates a location registration/update, in the respective visitor location register VLR upon entry into the new cell C2. The respective visitor location register VLR will accommodate registration of all mobile units MSs within their respective cell. When a mobile unit MS leaves the cell, its entry in the respective visitor location register VLR is erased. The database HLR is centralized and provides a permanent record of the current location of each mobile unit MS and is therefore in constant communication with the visitor location registers VLR. The mobile unit MS determines if its current location has changed cells based on signal strength from the respective base transceiver station BTS. To update its current location, the mobile unit MS sends a location update message LU to the mobile switching center MSC, which in turn forwards the same to the new visitor location register NVLR. Along with the location update message LU, a temporary mobile radiotelephone subscriber identifier TMSI, a location area identifier LAI identifying the area of the cell, and a cell identifier CI2 are transmitted. This information along with an international subscriber identifier IMSI is stored in the new visitor location register NVLR. The new visitor location register NVLR also maintains times under the international subscriber identifier IMSI and location area identifier LAI (see page 5). Subscriber data is then requested REQ from the database HLR by the new visitor location register NVLR. The database HLR sends the data and erases entry of the mobile unit MS in the old visitor location register OVLR. The above description is representative of Applicant's independent claim 10.

According to method of independent claim 1, a call is received by the switching center GMSC from a fixed telephone (SA on a PSTN). (See FIG. 2). The switching center GMSC interrogates INT the database HLR, which in turn interrogates the visitor location register VLR and the mobile switching center MSC. The mobile switching center MSC requests RE the international subscriber identifier IMSI and call identifier CI from the visitor location register VLR and uses them to broadcast a page PB via the base transceiver station/controller BTS/BSC to the appropriate cell as defined by the call identifier CI and the international subscriber identifier IMSI. If the mobile unit MS is still in the cell, a paging response is sent back. Otherwise, adjacent cells are paged (see page 6 et seq.).

Thus, independent claims 1 and 10 of the Applicant's present invention are directed to a method and system for paging a mobile telephone unit, wherein the paging is concentrated on the current cell the mobile telephone unit is occupying. By limiting the page accordingly, the network is spared use of resources.

This is unlike Tiedemann, Jr. et al., which discloses a method and system for selective paging based on zones (floating or fixed) and/or timed updates rather than based on current cell identification. Unlike the Applicant's present invention, Tiedemann, Jr. et al. does not rely on a cell identifier (CI) nor an international subscriber identifier (IMSI) in determining the current location of a mobile unit (MS). Rather, Tiedemann, Jr. et al. sets out zones comprised of a plurality of cells, mobile switching centers (MSC), and databases for making efficient paging. As with the Applicant's present invention, the mobile unit (MS) is required to register its location. However, unlike the Applicant's present invention, the registration does not take place when the mobile unit changes cells. Rather, the registration may occur at start up, power down, surpassing a predefined distance, or based on a predefined time. Thus, the granularity of Tiedemann, Jr. et al. never enters the cell level.

The Examiner attempts to combine Madhavapeddy et al. with Tiedemann, Jr. et al. to disclose selective paging based on current cell identification. However, as there is no disclosure or suggestion of cell level granularity in Tiedemann, Jr. et al., one of skill in the art would not have been motivated to incorporate Madhavapeddy et al. This combination was impermissible hindsight. Further, Madhavapeddy et al. does not go to the cell level to determine mobile unit location. In Madhavapeddy et al., a table is formed representing times and locations of each mobile unit in a system. "Hits" are recorded to give a history of activity and are tabulated by percentage. Madhavapeddy et al. uses a series of algorithms to predict where the mobile unit

might be rather than maintain a database of current locations. Accordingly, zones, as in Tiedemann, Jr. et al., are paged rather than a current cell. Therefore, one can statistically predict where the mobile unit is located rather than have a cell identifier (CI) and an international subscriber identifier (IMSI) from which to draw current location information. It appears that the Examiner recognized this limitation in stating that Madhavapeddy et al. uses cell identifiers to "locate the probable cells in which the mobile can be found". Accordingly, in Madhavapeddy et al., there is no current knowledge of which cell contains the mobile unit.

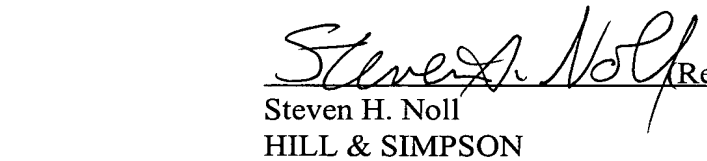
Thus, the subject matter of independent claims 1 and 10 is not disclosed or suggested by Tiedemann, Jr. et al. or Madhavapeddy et al., taken singly or in combination. Therefore, the Applicant respectfully submits that the rejections of claims 1 and 10 have been overcome and requests that it be withdrawn.

Claims 2-9 and 11-13 depend directly or indirectly from claims 1 and 10 and are therefore allowable for at least the reasons that claims 1 and 10 are allowable.

CONCLUSION

In view of the foregoing, it is submitted that Claims 1-13 are patentable. It is therefore submitted that the application is in condition for allowance. Notice to that effect is respectfully requested.

Respectfully submitted,



(Reg. No. 28,982)

Steven H. Noll
HILL & SIMPSON
A Professional Corporation
85th Floor - Sears Tower
Chicago, IL 60606
(312) 876-0200 - Ext. 3899
Attorneys for Applicant(s)